

REMARKS

Claims 1-17 are presented for reconsideration and further examination in view of the following remarks:

In the outstanding Office Action claims 1-17 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-22 of U.S. Patent No. 6,576,807; claims 1-3, 9-10, and 16-17 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,960,722 to Kiss; claims 5-8, 12, and 14-15 were rejected under 35 U.S.C. § 103(a) as obvious over the Kiss '722 patent in view of U.S. Patent No. 5,643,350 to Mason et al.; and claims 9-10, 12, and 14 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,615,626 to Floyd et al.

By this Response a Terminal Disclaimer is filed to obviate the obviousness-type double patenting rejections; and the rejections of claims 1-3, 5-10, 12, and 14-17 are traversed and arguments in support thereof are provided.

Double Patenting Rejections

Claims 1-15 were rejected under the judicially created doctrine of obviousness-type double patenting over U.S. patent No. 6,576,807.

Response

Submitted herewith is a Terminal Disclaimer which obviates the

obviousness-type double patenting rejections.

Accordingly, reconsideration and withdraw of the rejections is respectfully requested.

Rejections under 35 U.S.C. 103(a)

1. Claims 1-3, 9-10, and 16-17 were rejected as obvious over U.S. Patent No. 5,960,722 to Kiss;

2. Claims 5-8, 12, and 14-15 were rejected as obvious over the Kiss '722 patent in view of U.S. Patent No. 5,643,350 to Mason et al.; and

3. Claims 9-10, 12, and 14 were rejected as obvious over U.S. Patent No. 5,615,626 to Floyd et al.

Response

Applicants respectfully traverse the rejections because all three prongs for a *prima facie* case of obviousness have not been established for each of the rejections.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would be obvious to modify the references to

produce the present invention. See Ex parte Clapp, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings. Id. at 974.

1. Rejections based on Kiss '722.

Independent claims 1 and 9, as previously amended, and as herein resubmitted without further amendment, claim a method (claim 1) and apparatus (claim 9) of processing organic waste in divided solid and/or liquid form in a single reactor containing a bath of molten glass surmounted by a gas phase. As claimed in claims 1 and 9, the waste is incinerated in presence of oxygen or oxygen-containing gas acting as an oxidizer at a surface of the bath. The incinerated waste is then vitrified in the bath. Moreover, in addition to the oxygen or the oxygen-containing gas delivered as the oxidizer into the gas phase, oxygen or oxygen-containing gas is also injected into the bath by injection means having an open end.

The injection means is cooled and arranged in such a manner that on ceasing injection, the injection means do not form a plug of glass at their open end.

In contrast, the cited Kiss patent only discloses an incinerator inside which waste materials are incinerated. The Kiss reactor does not include a bath of molten glass in which the incinerated waste is vitrified, as claimed in claims 1 and 9.

Moreover, as disclosed in the Kiss patent clogging of the oxygen lances is avoided due to the high velocity of the injected oxygen (see col. 4, lines 12-13). Applicants respectfully submit that Kiss' avoidance of clogging due to the high velocity of the injected oxygen necessarily is limited to that period of time during which injection of oxygen occurs. The Kiss patent is silent on whether clogging of the oxygen lances occurs upon cessation of injection (at which time there is no high velocity oxygen flow) Such a specific problem, avoidance of plug formation on cessation of oxygen flow, while not addressed by the Kiss patent is the problem solved by the presently claimed invention and is crucial in the context of the invention where injection takes place inside a bath of molten glass. Claims 1 and 9, on the other hand, as previously amended and as herein resubmitted, claim that on ceasing injection, the injection means do not form a plug of glass at their open end.

Applicants therefore respectfully submit that the Kiss patent fails to teach or suggest vitrifying the incinerated waste in a bath of molten glass, as claimed in claims 1 and 9; and moreover submit that the Kiss fails to disclose that upon cessation of the injected oxygen flow that formation of a glass plug is avoided, as likewise claimed in claims 1 and 9. Claims 1 and 9 are therefore asserted to be patentable over the cited reference.

Claims 2-3 and 16-17, dependent from claim 1; and claim 10, dependent from claim 9, are asserted to be patentable over the Kiss

patent for at least the same reasons that claims 1 and 9, respectively are patentable thereover.

Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

2. Rejections based on Kiss '722 in view of Mason '350.

Applicants incorporate herein by reference the arguments presented above in response to the rejections of claims 1 and 9.

Claims 5-8, dependent from claim 1; and claims 12, and 14-15, dependent from claim 9, are asserted to be patentable over the combination of the Kiss and Mason patents for at least the same reasons that claims 1 and 9, respectively are patentable thereover.

Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

3. Rejections based on Floyd '626.

The Examiner asserts that "It appears that the combination of cooling system and the lance top-submerged into the bath would be sufficient to prevent plug formation in the lance delivering oxygen beneath the surface of the bath."

Assuming arguendo that the Examiner is correct, by the Examiner's own words plug formation is prevented by "the lance **delivering** oxygen".

Applicants respectfully submit that Floyd's avoidance of clogging when the lance is delivering oxygen necessarily is limited

to that period of time during which injection of oxygen occurs.

As noted above in response to the rejections of claims 1 and 9 based on the Kiss patent, the presently claimed invention solves the problem of plug formation upon cessation of the flow of oxygen - i.e., when there is no oxygen flow.

The Floyd patent is silent on whether clogging of the oxygen lances occurs upon cessation of injection (at which time there is no oxygen flow). Such a specific problem, avoidance of plug formation on cessation of oxygen flow, while not addressed by the Floyd patent is the problem solved by the presently claimed invention and is crucial in the context of the invention where injection takes place inside a bath of molten glass. Claims 1 and 9, on the other hand, as previously amended and as herein resubmitted, claim that on ceasing injection, the injection means do not form a plug of glass at their open end.

Applicants therefore respectfully submit that the Floyd patent fails to teach or suggest that upon cessation of the injected oxygen flow that formation of a glass plug is avoided, as claimed in claim 9. Claim 9 is therefore asserted to be patentable over the cited reference.

Claims 10, 12, and 14, dependent from claim 9, are asserted to be patentable over the Floyd patent for at least the same reasons that claim 9 is patentable thereover.

With respect to the rejection of claim 10, Applicants further submit that the cited Floyd patent discloses that the lance is

introduced from the top of the reactor, above the surface of the slag + waste. (See e.g., Floyd at Figs. 1-2, lance 42 introduced from top of reactor above surface of slag.). Claim 10, on the other hand, claims that the injection means are introduced into the bottom portion of the reactor beneath the surface of the bath of molten glass. (See e.g., application Fig. 1, injection means 8 introduced through bottom of reactor, below surface of molten glass.). Applicant respectfully submits that the Floyd patent nowhere discloses that the injection lances are introduced into the bottom portion of the reactor beneath the surface of the bath of molten glass as claimed in claim 10.

Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

MISCELLANEOUS

The references cited by the Examiner have been reviewed and it is submitted that the claims as previously amended and as herein resubmitted without further amendment are patentable thereover.

CONCLUSION

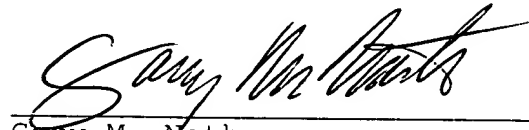
In light of the foregoing, Applicant submits that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicant respectfully requests that the Examiner contact the undersigned attorney if it is believed that such contact will

expedite the prosecution of the application.

Respectfully submitted,

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Date: October 20, 2003
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